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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,593	09/19/2005	Katsuhiro Fujimoto	1830.1012	1090
21171	7590	12/16/2009	EXAMINER	
STAAS & HALSEY LLP			LEE, DORIS L	
SUITE 700			ART UNIT	
1201 NEW YORK AVENUE, N.W.			PAPER NUMBER	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/549,593

**Applicant(s)**

FUJIMOTO ET AL.

**Examiner**

Doris L. Lee

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 12-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 12-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on September 22, 2009. In particular, claim 1 and claim 26 which have been amended to present new limitations on the polymer composition and claims 27 and 28 which are newly presented. This combination of limitations was not present in the original claims. Thus, the following action is properly made final.

#### ***Claim Rejections - 35 USC § 103***

2. **Claims 1-7, 12, 14-17, and 26-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kelsey et al (US 6,093,789)**.

**Regarding claims 1, 4, 26, 27 and 28**, Kelsey teaches a polytrimethylene terephthalate composition (Abstract) comprising a polymer component (col. 2, lines 39-53) and Irganox 1098 (col. 3, line 52) which fulfills the structural requirements of Component C wherein more than 50 mol percent is composed of trimethylene terephthalate repeating units (col. 2, lines 39-53). Kelsey teaches that at least 50 mole percent of the diacid to make the polyester is terephthalic acid (col. 2, lines 44-45) and that the other diols can be ethylene glycol or 1,4 butanediol (col. 2, lines 45-47). Therefore, 0-50% of the polymer component can be polyethylene terephthalate or polybutylene terephthalate.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the combination of monomers as taught by Kelsey to arrive at the presently claimed invention because of the teachings of Kelsey.

**Regarding claim 2**, Kelsey teaches that the amount of hindered phenol to the aromatic diacid monomer is from about 0.0005 mmol per mol of diacid to about 5 mmol/mol (col. 3, lines 53-60). It is also noted in the Examples in Table 5 that 0.05 to 0.1 wt percent of the hindered phenol is used in the composition.

**Regarding claim 3**, Kelsey teaches that the hindered phenols are a color stabilizer (col. 3, line 60-63).

**Regarding claim 5**, it is noted that component B is not mandatorially present in the composition.

**Regarding claim 6**, Kelsey teaches that Irganox 1098 is N,N-hexane-1,6-diylbis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionamide (col. 3, lines 45-53).

**Regarding claim 7**, Kelsey teaches that the composition further comprises a compound containing a sulfur atom (col. 5, line 19). The sulfur-containing compound is present in and amount within the range from 0.01 to 0.5 % by weight (col. 5, lines 30-35).

**Regarding claim 12**, Kelsey teaches that the hindered phenol (Irganox 1098) can be added directly to the polymer melt prior to solid stating (col. 5, lines 60-65).

**Regarding claim 14**, Kelsey teaches that the polytrimethylene terephthalate composition of claim 1 can be made into a fiber or molded article (col. 6, lines 20-23).

**Regarding claim 15**, Kelsey teaches that the hindered phenols are a color stabilizer (col. 3, line 60-63).

**Regarding claim 16**, it is noted that component B is not mandatorially present in the composition.

**Regarding claim 17**, Kelsey teaches that component C is Irganox 1098 is N,N-hexane-1,6-diylbis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionamide (col. 3, lines 45-53).

3. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kelsey et al (US 6,093,789)** in view of **Oku et al (US 5,106,905)**.

The discussion regarding Kelsey in paragraph 2 above is incorporated here by reference.

**Regarding claim 13**, Kelsey fails to teach incorporating the stabilizers during the kneading of the polymer.

Oku teaches a polyester composition (Abstract) in which stabilizers are incorporated during a kneading step (col. 8, lines 27-38).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the stabilizer of Kelsey during a kneading step as taught by Oku. One would have been motivated to uniformly blend the ingredients together (Oku, col. 8, lines 28-32). They are combinable because they are concerned with the same field of endeavor, namely stabilized polyesters.

4. **Claims 7-8, 18-23 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kelsey et al (US 6,093,789)** in view of **Kikuchi et al (US 4,897,438)**.

The discussion regarding Kelsey in paragraph 2 above is incorporated here by reference.

**Regarding claims 7-8 and 18-19**, Kelsey fails to teach the addition of a compound with a thioether group.

Kikuchi teaches a polyester resin composition (col. 6, lines 64-68) in which a thioether compound is added in an amount of 0.01 to 5 parts by weight per 100 parts by weight of the synthetic resin (col. 7, lines 5-21).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to add the thioether compound as taught by Kikuchi to the composition as taught by Kelsey. One would have been motivated to do so in order to improve the oxidation stability remarkably (Kikuchi, col. 7, lines 5-10). They are combinable because they are concerned with the same field of endeavor, namely stabilized polyesters.

**Regarding claims 20-22**, Kelsey teaches that the polymer component has more than 50 mol percent is composed of trimethylene terephthalate repeating units (col. 2, lines 39-53). Kelsey teaches that at least 50 mole percent of the diacid to make the polyester is terephthalic acid (col. 2, lines 44-45) and that the other diols can be ethylene glycol or 1,4 butanediol (col. 2, lines 45-47). Therefore, 0-50% of the polymer component can be polyethylene terephthalate or polybutylene terephthalate.

**Regarding claim 23**, Kelsey teaches that the hindered phenol (Irganox 1098) can be added directly to the polymer melt prior to solid stating (col. 5, lines 60-65).

**Regarding claim 25**, Kelsey teaches that the polytrimethylene terephthalate composition of claim 22 can be made into a fiber or molded article (col. 6, lines 20-23).

5. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kelsey et al (US 6,093,789)** in view of **Kikuchi et al (US 4,897,438)** and **Oku et al (US 5,106,905)**.

The discussion regarding Kelsey and Kikuchi in paragraph 4 above is incorporated here by reference.

**Regarding claim 24**, modified Kelsey fails to teach incorporating the stabilizers during the kneading of the polymer.

Oku teaches a polyester composition (Abstract) in which stabilizers are incorporated during a kneading step (col. 8, lines 27-38).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the stabilizer of Kelsey during a kneading step as taught by Oku. One would have been motivated to uniformly blend the ingredients together (Oku, col. 8, lines 28-32). They are combinable because they are concerned with the same field of endeavor, namely stabilized polyesters.

#### ***Response to Arguments***

6. Applicant's arguments filed September 22, 2009 have been fully considered but they are not persuasive regarding the Kelsey reference for the reasons as set forth below.

7. **Applicant's argument:** Kelsey does not anticipate the instant invention because it does not teach that the polymer component in the composition comprises from 90 to 20% by mole of polyethylene terephthalate, polybutylene terephthalate a polycarbonate or a polyolefin.

**Examiner's response:** *As set forth in the rejection above, Kelsey still reads on the new claim limitations and incorporates within the polytrimethylene terephthalate polymer*

*from 0 to 50% by weight of either polyethylene terephthalate or polybutylene terephthalate.*

**Conclusion**

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Doris L. Lee whose telephone number is (571)270-3872. The examiner can normally be reached on Monday - Thursday 7:30 am to 5 pm and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)272-1119. The fax phone



number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Doris L Lee/  
Examiner, Art Unit 1796

/Vasu Jagannathan/  
Supervisory Patent Examiner, Art Unit 1796